

cool weather the middle of the period was detrimental for best growth. Rain was needed in most of Iowa and would have been beneficial over considerable portions of the trans-Mississippi States. Numerous showers and generally favorable temperature conditions were helpful for corn during the second decade, though moisture was insufficient in some interior valley sections and locally in the Great Plains. In Iowa progress was mostly fair to good with the early crop in the western third tasseling at about the normal date, and advance was very good to excellent in the Great Plains and lower Missouri Valley. During the last decade temperatures were rather too low for best growth of corn from the Ohio and central Mississippi Valleys northward, but the crop made fair to good progress generally. Showers were helpful in many parts of the belt and, while rain was needed in more or less limited areas, there was no widespread need of soil moisture. While corn showed material improvement during the month it was still late and uneven at the close with indications that some of the late crop could make only fodder.

Cotton.—Temperatures in the Cotton Belt were rather moderate, except that nights in the eastern portion were rather too cool for best growth during the first decade. Moisture was generally favorable, except that further rains in the East were unfavorable with complaints of grassy fields and rank growth in some places. Progress of the crop ranged from fair to excellent in the Carolinas and fair to very good in the central portion. Fair to excellent progress was noted in western areas, but there were complaints of increased weevil activity, shedding, and poor fruiting locally.

During the second decade mostly moderate temperatures and rainfall prevailed, and in the Atlantic Coast States the growth of cotton was very good to excellent, but weevil activity increased generally and cultivation was hindered locally. In the central portion progress was satisfactory and in the northwestern section very good advance was made. Progress and condition were

mostly fair to very good in the Southwest, though there was some complaint of rank growth and grassy fields; fruiting was progressing well and picking advanced favorably in the South. Conditions continued moderate and favorable the latter part of the month and in the East good to excellent growth was made, although there were complaints of increased weevil activity; while this condition was noted also in central sections, generally fair to excellent advance was made. Progress in the Northwest depended generally on insect infestation, but in the Southwest the weather was mostly favorable, though the condition and advance of the crop was spotted and averaged only fairly good. Picking progressed well the latter part of the month in the South.

Ranges, pastures, and livestock.—Pastures in the East continued in mostly good to excellent condition throughout the month, although there were some local complaints of dryness in the middle Atlantic area and in the Lake region. Ranges continued dry in southern New Mexico and some areas of the Great Basin, and locally elsewhere. Outside of the local dry areas, ranges were in mostly satisfactory condition in much of the great western grazing area and livestock were good to excellent generally. Showers were detrimental to haying locally and there was some damage to cut hay and alfalfa, but this work, in general, was favored by good weather.

Miscellaneous crops.—Potatoes were in mostly satisfactory condition during the month, except that more moisture was needed in the Lake region at the close. Truck crops were favored generally and were doing well. Tobacco did well in the Southeast with curing advancing; there were some complaints of irregular advance in Kentucky, due to dryness, but elsewhere the crop progressed satisfactorily. Sugar cane made good to excellent advance and sugar beets did well generally. There were complaints of heavy drop of apples in some northeastern sections the first part of the month and the condition of fruit in general was rather poor in central and central-northern areas. Citrus fruits did well in Florida.

WEATHER ON THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

As shown on the Pilot Chart, July is normally the quietest month over the North Atlantic Ocean, and the current month is no exception to the general rule. According to reports received up to date, the greatest number of gales occurred in the 5° square between the forty-fifth and fiftieth parallels and the fifteenth and twentieth meridians, where they were observed on four days. The region west of the thirty-fifth meridian was apparently free from heavy weather, with the exception of one day with moderate gales over the mid-western section of the steamer lanes, and disturbances of a local nature in southern waters that are described in the notes at the end of this article. Up to the present writing, September 1, 21 storm reports for July have been received, and of these only four show a maximum force of wind as high as 9. Due to the rarity of cyclonic disturbances no charts were drawn.

Fog was unusually prevalent over the greater part of the ocean, and especially off the coast of New England and over the Grand Banks, where it was observed on 23 and 20 days, respectively; it was reported on from 8 to 11 days over the middle section of the steamer lanes, and from 1 to 8 days off the coast of Europe.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 3 a. m. (75th meridian), North Atlantic Ocean, July, 1927

Stations	Average pressure	Departure ¹	High-est	Date	Low-est	Date
	Inches	Inch	Inches		Inches	
Belle Isle, Newfoundland.....	29.94	+0.07	30.36	22d....	29.42	5th.
Halifax, Nova Scotia.....	30.05	+0.13	30.36	22d....	29.68	4th.
Nantucket.....	30.01	+0.03	30.24	21st ¹ ..	29.72	3d.
Hatteras.....	30.05	+0.03	30.20	6th ² ..	29.80	2d.
Key West.....	30.05	+0.04	30.14	11th ² ..	29.96	1st.
New Orleans.....	30.05	+0.05	30.16	23th....	29.92	2d.
Swan Island.....	29.91	-0.01	29.98	27th....	29.82	14th.
Turks Island.....	30.10	+0.09	30.18	26th ² ..	29.98	18th.
Bermuda.....	30.25	+0.14	30.40	10th ¹ ..	29.78	1st.
Horta, Azores.....	30.23	-0.04	30.48	10th....	29.96	18th.
Lerwick, Shetland Islands.....	29.88	+0.08	30.29	16th....	29.40	28th.
Valencia, Ireland.....	29.86	-0.12	30.33	15th....	29.49	27th.
London.....	29.89	-0.09	30.23	19th....	29.33	1st.

¹ From normals shown on Hydrographic Office Pilot Chart based on observations at Greenwich mean noon, or 7 a. m., 75th meridian.

² And on other dates.

On the 2d a disturbance of moderate intensity was central near 46° N., 30° W.; this moved slowly eastward, and on the 6th the center was off the west coast of Ireland. During this period, moderate gales were reported by vessels near the center of the low, which was of limited extent.

On the 18th a comparatively slight disturbance was central near 48° N., 20° W., as shown by report in table.

From the 25th to 29th considerable cyclonic activity prevailed over the middle and eastern sections of the steamer lanes that reached its greatest intensity on the 28th and 29th, with moderate gales on these dates along the 50th parallel, between the 20th and 40th meridians.

On the 29th gales were reported along the American coast between Jacksonville and Hatteras, as shown by report in table from the British S. S. *Comanche*.

NOTES

Am. S. S. *Gulf Trader*; Capt. N. Borgersen; observer, J. N. Converse. From Philadelphia to Port Arthur: July 4, 2:15 to 3:30 a. m. approximate position 33° N., 75° 30' W. Passed through electrical storm of unusual severity. A steady cross fire of chain and ball lightning with steady crash of thunder. SW. wind of hurricane force for a short time. Very heavy rain.

Am. S. S. *Steel Mariner*; Capt. H. W. Doyle; observer, H. Hendrickson. From Colon to Portsmouth, N. H.: July 10-12, from Colon to Navassa Island, off west coast of Haiti, experienced strong wind, increasing to fresh gale at times, with a steady barometer.

Am. S. S. *Gulf Prince*; Capt. Chas. G. Carlsen; observer, 2d mate. From Beverly, Mass., to Port Arthur: July 8, 11:45 to 11:55 a. m., observed a large waterspout 6 miles SE. of Fowey Rocks. Spout was moving north.

Am. S. S. *West Celeron*; Capt. E. P. White, jr.; observer, R. H. Perry. From Marseille to Galveston: July 6 in 25° 50' N., 76° 30' W., sighted waterspouts. Heavy rolls of Nimbus clouds and heavy rain squalls. Upper clouds moving toward SW. and lower toward NE. Barometer 29.95 inches. Temperature of air 79°.

French S. S. *De La Salle*; Capt. A. Sylvestre; observer, M. Guillon. From Habana to New Orleans: On July 27 observed two waterspouts. The first at 7 p. m. was broken rapidly. The second from 7:18 to 7:27 p. m. at the same spot, inclination from the clouds about 45°. Ship's position, 27° 56' N., 88° W. Approximate position of spout: Distance from ship 7 miles, bearing N. 30° E, true. Temperature of air 86°. Wind ESE., 2. Clouds from which spout came, Cu. Nb. Direction of lower clouds, W.

OCEAN GALES AND STORMS, JULY, 1927

Vessel	Voyage		Position at time of lowest barometer		Gale began	Time of lowest barometer	Gale ended	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Highest force of wind and direction	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN													
Binnendijk, Du. S. S.	New port News.	Rotterdam	47 05 N.	27 45 W.	July 2.	4a., 3d.	July 3.	Inches 29.53	W.	NW., 8.	NW.	NW., 8.	Steady.
Belleplaine, Am. S. S.	Rotterdam	New York	49 30 N.	14 10 W.	3.	3d.	6.	29.17	S.	W., 7.	NE.	NW., 8.	SW.-W.
Housatonic, Br. S. S.	South Shields	Tampico	49 32 N.	6 12 W.	3.	Mdt., 3d.	6.	29.46	SE.	S., 8.	NNW.	S., 8.	SSE.-SSW.
Bristol City, Br. S. S.	Fowey, Eng-land.	Philadelphia.	49 10 N.	17 37 W.	5.	9a., 5th.	6.	29.45	W.	W., 7.	W.	W., 8.	WSW.-W.
Ontario, Fr. S. S.	Dunkirk	New York	49 27 N.	11 44 W.	6.	9a., 6th.	7.	29.42	SW.	SW., 7.	NW.	NW., 9.	SW.-W.-NW.
West Eldara, Am. S. S.	New York	Antwerp	48 35 N.	18 55 W.	9.	1a., 9th.	9.	30.18	N.	N., 8.	N.	N., 8.	Steady.
Burgerdijk, Du. S. S.	do.	Rotterdam	48 30 N.	19 51 W.	17.	4a., 18th.	18.	29.46	E.	E., 8.	ESE.	E., 8.	E.-ESE.
West Eldara, Am. S. S.	Antwerp	New York	50 20 N.	30 00 W.	24.	4a., 25th.	28.	29.57	W.	W., 8.	NNW.	NW., 8.	SW.-W.-NW.
United States, Dan. S. S.	Oslo	do.	51 46 N.	34 10 W.	27.	2a., 28th.	28.	29.39	SE.	NW., 8.	NW.	NW., 9.	SW.-W.-NW.
Arkansas, Dan. S. S.	Newcastle	Boston	52 15 N.	29 08 W.	28.	2p., 28th.	29.	29.30	SW.	SW., 7.	NNE.	—, 9.	SE.-SW.-NW.
San Nazario, Br. S. S.	The Tyne	Canal Zone.	51 31 N.	19 23 W.	28.	2p., 28th.	30.	29.25	SE.	SW., 6.	WNW.	SW., 9.	SE.-SW.-NW.
Comanche, Br. S. S.	Baytown	London	30 54 N.	79 12 W.	29.	4a., 29th.	29.	30.10	SSW.	Var. 5.	Var.	NNW., 8.	Steady.
Hellig Olav, Dan. S. S.	New York	Christian-sand.	51 35 N.	34 56 W.	28.	4a., 29th.	29.	29.64	NW.	NW., 8.	NW.	NW., 8.	Steady.
NORTH PACIFIC OCEAN													
W. S. Miller, Am. S. S.	San Pedro	Balboa	20 08 N.	106 41 W.	July 1.	2p., 1st.	July 1.	29.56	E.	ESE., 11.	SSE.	ESE., 11.	ESE.-SE.
Steel Mariner, Am. S. S.	do.	do.	19 37 N.	105 53 W.	1.	1p., 1st.	1.	29.76	SE.	SSE., 8.	S.	SSE., 8.	NE.-S.
West Chopaka, Am. S. S.	San Francisco	Shanghai	50 00 N.	176 00 W.	4.	1a., 4th.	5.	29.18	SE.	SE., 8.	S.	SE., 8.	SE.-S.
Eelbeck, Am. S. S.	Honolulu	Balboa	16 40 N.	112 30 W.	5.	1a., 6th.	7.	29.70	SSW.	W., 5.	SSW.	SSW., 9.	WNW.-SSW.
Patrick Henry, Am. S. S.	do.	Manila	15 10 N.	131 50 E.	13.	2a., 14th.	15.	29.29	S.	E., 5.	WSW.	WNW., 8.	Variable.
Dewey, Am. S. S.	Hong Kong.	San Francisco.	25 22 N.	119 41 E.	16.	2a., 17th.	17.	29.24	N.	NNE., 10.	NE.	NNE., 10.	NNE.-N.
SOUTH PACIFIC OCEAN													
Tahiti, Br. S. S.	San Francisco.	Sydney	34 35 S.	154 29 E.	8.	4p., 8th.	9.	29.70	SW.	NW., 4.	—	SW., 8.	NW.-SW.
Pleiodon, Br. S. S.	San Pedro	Auckland	30 05 S.	178 20 W.	10.	—, 12th.	14.	29.54	NW.	WSW., 8.	SW.	WSW., 8.	Do.
West Nivaria, Am. S. S.	New Zealand.	Honolulu	New Plymouth, N.Z.	10.	8a., 11th.	14.	28.96	NE.	S., 6.	SW.	W., 10.	S.-W.	Do.
INDIAN OCEAN ¹													
Roepat, Du. S. S.	Du. East Indies.	Suez	8 51 N.	52 20 E.	3.	4a., 4th.	4.	29.72	SW.	SW., —	SW.	SW., 10.	Steady.
Zurichmoor, Br. S. S.	Karachi	Port Said	18 50 N.	59 45 E.	5.	8a., 5th.	7.	29.55	SW.	SW., 6.	SSW.	SW., 8.	Do.
Atlanta City, Am. S. S.	Penang	Aden	7 20 N.	57 30 E.	12.	7a., 13th.	13.	29.79	SW.	SW., 8.	SW.	SW., 8.	Do.
SOUTH ATLANTIC OCEAN													
Gedania, Danz. S. S.	Talara	Campana	35 05 S.	55 17 W.	5.	2p., 5th.	7.	—	E.	WNW., 8.	SW.	WNW., 8.	WNW.-SW.
Saint Dunstan, Br. S. S.	Cardiff	River Plate	31 58 S.	51 02 W.	6.	—, 7th.	8.	30.20	W.	W., 9.	SW.	W., 9.	WNW.-WSW.
Chincha, Am. S. S.	Durban	Rio de Janeiro.	26 48 S.	27 13 W.	13.	10p., 16th.	16.	30.18	SE.	ENE., 4.	E.	ESE., 8.	—
Clearwater, Am. S. S. (late report for June).	Brazil	New Orleans.	31 51 S. ²	50 23 W. ²	June 10.	4p., 11th.	June 13.	29.15	N.	SW., 12.	SSW.	SW., 12.	—

¹ Reports of southwest monsoon.² Near.